

# Zhichao Chen/ Ziciu Can (Wade-Giles)

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<https://ziciucanjustus.github.io/>

EXPERIENCE	<p><b>Doctor of Philosophy Candidate</b>, College of Control Sceince and Engineering, Zhejiang University Oct 2020–Now</p> <p>Supervised by <a href="#">Zhihuan Song</a> and <a href="#">Zhiqiang Ge</a> on industrial process data analytics</p> <ul style="list-style-type: none"><li>• Theoretically derived graph mining and utilization of industrial process.</li><li>• Derive latent variable learning algorithm from the perspective of optimization/control theory.</li><li>• Understanding, Analyzing, and Improving Bayesian inference from the perspective of information geometry.</li></ul> <p><b>Research Intern</b>, Microsoft Research AI4Science Asia Apr 2023–Oct 2023</p> <p>Supervised by <a href="#">Chang Liu</a> and <a href="#">Bin Shao</a> on solving Schrödinger equation with normalizing flow model.</p> <ul style="list-style-type: none"><li>• Development of normalizing flow algorithm.</li><li>• Code-base reformulation</li></ul> <p><b>Research Intern</b>, Ant Group Aug 2021–Jan 2023</p> <p>Supervised by Leilei Ding, Jianmin Huang and <a href="#">Wei Chu</a> on cumulative time-series forecasting and large scale multivariate anomaly detection &amp; diagnosis.</p> <ul style="list-style-type: none"><li>• Development of time-series forecasting paper for “red-package” business.</li><li>• Development of anomaly diagnosis algorithm for applet monitoring (full-stack).</li></ul> <p><b>Undergraduate</b>, School of Chemical Engineering and Technology, Sun Yat-sen University 2016–2020</p> <p>Supervised by <a href="#">Chang He</a> and <a href="#">Haoshui Yu</a> on chemical process optimization using GAMS.</p> <ul style="list-style-type: none"><li>• Synthesize of “organic Rankine cycle-heat integration-wastewater desalination” Coupled System</li></ul>
EDUCATION	<p><b>Ph.D. Control Theory &amp; Engineering</b>, Zhejiang University (exp.) 2025</p> <p><b>B.S. Chemical Engineering &amp; Technology</b>, Sun Yat-sen University 2020</p>
SERVICES	<p><b>Reviewer</b>,</p> <ul style="list-style-type: none"><li>• <b>Conference</b>: <a href="#">ICLR-2024</a> <a href="#">ICML-2023</a>, <a href="#">ICML-2024</a>, <a href="#">NeurIPS 2024</a>, <a href="#">AISTATS 2025</a>, <a href="#">AAAI 2025</a>, <a href="#">WWW 2025</a> ,</li><li>• <b>Journal</b>: <a href="#">IEEE TNNLS</a></li></ul>
AWARDS	<p><b>Undergraduate National Scholarship</b>, Ministry of Education (China) 2018,2019</p> <p><b>The First Prize Scholarship of Sun Yat-sen University</b>, Sun Yat-sen University 2017,2018,2019</p> <p><b>One Hundred Outstanding Students of Sun Yat-sen University</b>, Sun Yat-sen University 2021</p> <p><b>The First Prize Scholarship</b>, Zhejiang University 2020,2021</p>
COMPETENCES	<p><b>Languages</b> Chinese (<i>native</i>), English (CET-6, 533)</p> <p><b>Techniques</b> Python, GAMS, MATLAB, Optimization, Optimal Control</p> <p><b>Backends</b> PyTorch, JAX, PyRO</p>
FIRST-AUTHORED PUBLICATIONS (ACCEPTED)	<p>[1] <a href="#">Improving Data-Driven Inferential Sensor Modeling by Industrial Knowledge: A Bayesian Perspective</a>. <i>IEEE Transactions on Systems, Man and Cybernetics: Systems</i> (CCF-B, IF=8.6, JCR-Q1)</p> <p>[2] <a href="#">Diffusion Model-based Numerical Tabular Data Imputation: A Wasserstein Gradient Flow Perspective</a>. <i>The Thirty-Eighth Annual Conference on Neural Information Processing Systems (NeurIPS 2024)</i>, Main Track, Poster (CCF-A), 2024.</p>

- [3] E<sup>2</sup>AG: Entropy-Regularized Ensemble Adaptive Graph for Industrial Soft Sensor Modeling. *IEEE/CAA Journal of Automatica Sinica* (Top-1, IF=15.3, JCR Q1, Regular Paper), 2024.
- [4] Analyzing and Improving Supervised Nonlinear Dynamical Probabilistic Latent Variable Model for Inferential Sensors. *IEEE Transactions on Industrial Informatics* (CCF-C, IF=11.7, JCR Q1, Regular Paper), 2024. doi: 10.1109/TII.2024.3435466
- [5] Variational Inference Over Graph: Knowledge Representation for Deep Process Data Analytics. *IEEE Transactions on Knowledge and Data Engineering* (CCF-A, IF=8.9, Regular Paper), 2023. doi: 10.1109/TKDE.2023.3327415
- [6] Unsupervised Anomaly Detection & Diagnosis: A Stein Variational Gradient Descent Approach. In: *CIKM'23* (CCF-B, Short Paper), Birmingham, England, 2023. doi: 10.1145/3583780.3615167
- [7] Monotonic Neural Ordinary Differential Equation: Time-series Forecasting for Cumulative Data. In: *CIKM'23* (CCF-B, Applied Research Paper), Birmingham, England, 2023. doi: 10.1145/3583780.3615487
- [8] Directed Acyclic Graphs With Tears. *IEEE Transactions on Artificial Intelligence* vol. 4, no. 4, 972-983, 2023. doi: 10.1109/TAI.2022.3181115
- [9] Knowledge Automation Through Graph Mining, Convolution, and Explanation Framework: A Soft Sensor Practice. *IEEE Transactions on Industrial Informatics* (CCF-C, IF=11.7, JCR Q1, Regular Paper) vol. 18, no. 9, 6068-6078, 2022. doi: 10.1109/TII.2021.3127204
- [10] Stochastic optimization-based approach for simultaneous process design and HEN synthesis of tightly-coupled RO-ORC-HI systems under seasonal uncertainty. *Chemical Engineering Science* vol. 246, 116961, 2021. doi: 10.1016/j.ces.2021.116961

CORRESPONDING-AUTHORED PUBLICATIONS (ACCEPTED) [1] SPOT-I: Similarity Preserved Optimal Transport for Industrial IoT Data Imputation. *IEEE Transactions on Industrial Informatics* (CCF-C, IF=11.7, JCR Q1, Regular Paper). doi: 10.1109/TII.2024.3452241

[2] LSPT-D: Local Similarity Preserved Transport for Direct Industrial Data Imputation. *IEEE Transactions on Automation Science and Engineering* (CCF-B, IF=5.9, JCR Q1, Regular Paper). doi: 10.1109/TASE.2024.3506835

CO-AUTHORED PUBLICATIONS (ACCEPTED) [1] Optimal Transport for Treatment Effect Estimation. *NeurIPS 2024* (CCF-A, Main Track), 2023.

[2] ESCM<sup>2</sup>: Entire Space Counterfactual Multi-Task Model for Post-Click Conversion Rate Estimation. In: *SIGIR'22* (CCF-A, Research Article), Madrid, Spain, 2022. doi: 10.1145/3477495.3531972

[3] TMoE-P: Toward the Pareto Optimum for Multivariate Soft Sensors. *IEEE Transactions on Automation Science and Engineering* (CCF-B, IF=5.9, JCR Q1, Regular Paper), 2024. doi: 10.1109/TASE.2024.3504736

[4] Entire Space Counterfactual Learning for Reliable Content Recommendations. *IEEE Transactions on Information Forensics and Security* (CCF-A, IF=6.3, JCR Q1, Regular Paper), 2024. doi: 10.1109/TIFS.2024.3516584